

sub 7  
B1

1. (Twice Amended) A process of forming a container cell, comprising:

forming a trench in a semiconductor substrate, said semiconductor substrate having an upper surface;

forming an isolation film within said trench;

forming a gate oxide on the upper surface of said semiconductor substrate such that the gate oxide extends below the upper surface of said semiconductor substrate;

forming a first gate stack upon said semiconductor substrate and having an edge aligned with and adjacent to an edge of said trench;

forming a second gate stack upon said isolation film within said trench; and

etching a container cell into said isolation film within said trench, said container cell being situated substantially between said first and second gate stacks and having an edge defined by said semiconductor substrate and said isolation film, said edge of said container cell substantially extending to and terminating at each of said first and second gate stacks.

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15. (Twice Amended) A process of forming a container cell, comprising:

forming a trench in a semiconductor substrate, said semiconductor substrate having an upper surface;

forming a conformal isolation film within said trench;

growing a gate oxide on the upper surface of said semiconductor substrate such that the gate oxide extends below the upper surface of said semiconductor substrate;

forming a first gate stack upon said semiconductor substrate and having an edge aligned with and adjacent to an edge of said trench;

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forming a second gate stack upon said isolation film within said trench; and  
etching a container cell into said isolation film within said trench, said container cell being situated substantially between said first and second gate stacks and having an edge defined by said semiconductor substrate and said isolation film, said edge of said container cell substantially extending to and terminating at each of said first and second gate stacks, wherein said semiconductor substrate and said isolation film have an interface that extends below said edge into said semiconductor substrate.

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19. (Twice Amended) A process of forming a container cell, comprising:

forming a trench in a semiconductor substrate by spinning on a photoresist, masking, exposing and patterning said photoresist to create a photoresist mask, and anisotropically etching through said photoresist mask, said semiconductor substrate having an upper surface;

forming a conformal isolation film within said trench by forming an oxide film by deposition;

growing a gate oxide on the upper surface of said semiconductor substrate such that the gate oxide extends below the upper surface of said semiconductor substrate;

forming a first gate stack upon said semiconductor substrate and having an edge aligned with and adjacent to an edge of said trench;

forming a second gate stack upon said isolation film within said trench; and

etching a container cell into said isolation film within said trench, said container cell being situated substantially between said first and second gate stacks and having an edge defined by said semiconductor substrate and said isolation film, said edge of said

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container cell substantially extending to and terminating at each of said first and second gate stacks, wherein said semiconductor substrate and said isolation film form an interface that extends below said container cell into said semiconductor substrate.

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23. (Once Amended) A process of forming a capacitor, comprising:

forming a trench in a semiconductor substrate, said semiconductor substrate having an upper surface;

forming an isolation film within said trench;

forming a gate oxide on the upper surface of said semiconductor substrate such that the gate oxide extends below the upper surface of said semiconductor substrate;

forming a first gate stack upon said semiconductor substrate, said first gate stack having an edge aligned with and adjacent to an edge of said trench;

forming a second gate stack upon said isolation film within said trench;

etching a container cell into said isolation film within said trench, said container cell being situated substantially between said first and second gate stacks and having an edge defined by said semiconductor substrate and said isolation film, said edge of said container cell substantially extending to and terminating at each of said first and second gate stacks;

forming a storage node within said container cell;

forming a cell dielectric upon said storage node; and

forming a cell plate upon said first gate stack, upon said cell dielectric, and upon said second gate stack.

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